

CLAIMS

1. A method for expanding a human T-cell population that expresses a natural or engineered NKG2D comprising contacting said population with an NKG2D ligand.
2. The method of claim 1, wherein the NKG2D ligand is an anti-NKG2D antibody, or an NKG2D-binding fragment thereof.
3. The method of claim 1, wherein said contacting is performed *in vivo*.
4. The method of claim 1, wherein said contacting is performed *ex vivo*.
5. The method of claim 1, wherein said cell population is a CD8⁺ population or a CD4⁺ population.
6. The method of claim 1, wherein said cell population is a T cell population, an NK cell population or a monocyte population.
7. The method of claim 6, wherein said cell population is T cell population.
8. The method of claim 7, wherein said T cell population is an antigen-specific T cell population.
9. The method of claim 6, wherein said T cell population is from a subject with a primed anti-tumor response.
10. The method of claim 6, wherein said T cell population is from a subject with a primed anti-viral response.
11. The method of claim 6, wherein said T cell population is from an immunocompromised subject.

12. The method of claim 6, wherein said T cell population also is induced to secrete lymphokines.

13. The method of claim 2, wherein said anti-NKG2-D antibody fragment thereof is selected from the group consisting of Fab, F(ab')₂, and single-chain antibody.

14. A method for inducing lymphokine secretion from a human cell population that expresses a natural or engineered comprising contacting said population with an anti-NKG2-D antibody, or an NKG2-D-binding fragment thereof.

15. The method of claim 14, wherein said lymphokine is selected from the group consisting of INF- γ , TNF- α , GM-CSF, IL-2 and IL-4.

16. A method for enhancing an antigen-specific T cell response in a subject comprising (a) obtaining a population of antigen-specific T cells, (b) contacting said population of antigen-specific T cells with an anti-NKG2-D antibody, or an NKG2-D-binding fragment thereof, and (c) administering said population to said subject.

17. A method for treating cancer comprising (a) obtaining a population of antigen-specific T cells from a subject having cancer, (b) contacting said population of antigen-specific T cells with an anti-NKG2-D antibody, or an NKG2-D-binding fragment thereof, and (c) administering said population to said subject.

18. The method of claim 17, wherein said cancer is an epithelial tumor.

19. The method of claim 18, wherein said epithelial tumor is a carcinoma.

20. The method of claim 19, wherein said carcinoma is a carcinoma of the breast, lung, colon, kidney, prostate, or ovary.

21. The method of claim 17, wherein said cancer is a melanoma.

22. A method for treating a viral infection comprising (a) obtaining a population of antigen-specific T cells from a subject having a viral infection, (b) contacting said population of antigen-specific T cells with an anti-NKG2-D antibody, or an NKG2-D-binding fragment thereof, and (c) administering said population to said subject.

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23. A method of stimulating the immune system of an immunocompromised subject comprising (a) obtaining a population of antigen-specific T cells from said subject, (b) contacting said population of antigen-specific T cells with an anti-NKG2-D antibody, or an NKG2-D-binding fragment thereof, and (c) administering said population to said
10 subject.

24. A method of stimulating an effector function of a lymphocyte comprising (a) obtaining a population of lymphocytes, and (b) contacting said population of lymphocytes with an anti-NKG2-D antibody, or an NKG2-D-binding fragment thereof.

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25. A method of stimulating a memory function of a lymphocyte comprising (a) obtaining a population of lymphocytes, and (b) contacting said population of lymphocytes with an anti-NKG2-D antibody, or an NKG2-D-binding fragment thereof.